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R E M A R K S

Claims 8, 10 and 12 have been amended. Support for the amendments is found, for example, in Applicants' specification in paragraphs 9 and 14. No new matter has been added. Claims 1-7 and 14-22 are cancelled. Claims 9, 11 and 13 stand as previously presented.

Claims 8-13 were considered in the Office Action.

Claims 8-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Todokoro et al., U.S. Patent 4,574,206 (hereinafter Todokoro).

The currently pending independent claims (8, 10 and 12) recite the use of a resistive ladder to provide or adjust a reference voltage between low and high reference levels or voltages through a plurality of intermediate reference levels or voltages during a single half cycle of an input signal. None of the cited references disclose or suggest the use of a resistive ladder to adjust a reference voltage through a plurality of levels during a single half cycle of an input signal for use in determining the state of the input signal. Applicants note that none of the cited references disclose more than two total reference signal voltages, and that therefore there can be no suggestion of moving between a low and a high reference level through a plurality of intermediate reference levels during a single half cycle of an input signal to determine the state of the input signal, nor of using a resistive ladder to do so.

Applicants agree that the use of resistive ladders is well known for providing reference voltages. However, Applicants respectfully disagree that the use of resistive ladders is well known for providing a plurality of reference voltages, all used as a varying reference signal during a single half cycle of an input signal to determine the state of

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the input signal. The disclosed and claimed invention provides the great benefit over the cited references of slowly changing the reference level during a half cycle of the input signal so the comparator is not susceptible to false triggers due to ringing, as described in Applicants' specification in paragraph 10. In contrast, the two-state reference levels of the cited references cannot be moved as far apart or they would be susceptible to false triggers due to ringing on the input signal. Because the Applicants' varying reference signal changes as the ringing dies out, the reference signal can ultimately settle at more remote levels, reducing the detection time when the input signal changes, as described in Applicants' specification in paragraph 11.

Dependent claims 9, 11 and 13 ultimately depend upon the independent claims which are allowable over the cited art as discussed above. These dependent claims are likewise in condition for allowance at least because they depend on an allowable independent claim. However, dependent claims 9, 11 and 13 are independently allowable at least in that they recite particular features which, when combined with the elements of the base independent claims, are not disclosed or suggested in the cited references.

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The Applicants believe that the currently pending claims are clear and definite and are not anticipated by or obvious over the cited references and respectfully request the timely issuance of a Notice of Allowance.

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Respectfully submitted,  
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